Houghton le Spring.
Feby. 8th 1898.

Dear Sir,

I beg herewith to enclose a copy each of my Annual Reports for the Urban and Rural District Councils of the Houghton le Spring Union, which were adopted by the respective Councils on the 7th inst.

Yours truly

J. A. Park

The Librarian,
British Medical Association,
429 Strand,
London, W.C.

Hou — L

BRITISH MEDICAL
Library
ASSOCIATION

Houghton-le-Spring.
February 7th 1898.

To the Rural District Council of
Houghton-le-Spring.

Mr Chairman and Gentlemen,

It is again my duty to lay before you my Annual Report for the Northern Division of the Houghton-le-Spring Union for the year ending December 31st 1897.

Accompanying my report are the tables "A" and "B" of the Local Government Board, the former relating to the deaths classified according to diseases, ages, and localities and the latter to the New cases of Sickness that have occurred during the year.

<u>Deaths</u>. It will be seen from table "A" that 230 deaths have been registered in this division of the Union, but as 4 occurred in the Union Workhouse, 1 in the County Asylum and four in the Sunderland Infirmary, according to the returns of the County Medical Officer, to persons belonging to this division of the Union and must therefore be included; the number of deaths upon which the mortality must be based becomes increased to 239.

Of the total number of deaths 125 occurred to children under the age of five years.

If we estimate the population at the middle of the year as requested by the Local Government Board at 14.345 this is equivalent to a death-rate of 16.6 per 1.000 per annum and an

Digitized by the Internet Archive
in 2018 with funding from
Wellcome Library

https://archive.org/details/b29437003

infant mortality of 52.3 per cent.
The death-rate under one year per 1.000 registered births is 174.
The following table gives the rates of mortality for the last four years:-

Year	Death-rate per 1.000 per annum.	Infant mortality
1894	16.9	50.6
1895	18.2	47.6
1896	18.6	60.6
1897	16.6	52.3

The 130 deaths included under "All other diseases, and not provided for in any of the Forms of the Local Government Board were due to the following causes:-

Scrofulous diseases	6
Cancer	7
Dis. of the Nervous System	10
Convulsions	17
Atrophy	7
Dis. of the Digestive Organs	14
Premature birth	29
Old-age	21
Child-birth	2
Dis. of the Urinary Organs	7
All other diseases.	10
	130 Total.

The following table gives the death-rate from the principal Zymotic diseases, including Phthisis and the acute diseases of the lungs for the last three years:-

No.	Disease	1895.	1896.	1897.
1.	Small Pox.	—	—	—
2.	Scarlet Fever.	—	2.7	—
3.	Diphtheria & Croup.	—	—	.20
4.	Typhoid & Continued Fever.	.65	.70	.35
5.	Measles.	—	.84	—
6.	Whooping Cough.	.21	.42	.20
7.	Diarrhœa & Dysentery.	.93	.35	.28
8.	Phthisis.	.3	1.2	1.05
9.	Acute dis. of the lungs.	2.9	3.04	2.45

Births. The births for the year number 522
269 Males.
253 Females.
which is equivalent to a birth-rate of 37 per 1,000 per annum and a natural increase to the population of 283.
The following table gives the number of births - male and female, including birth-rate for the last ~~the~~ four years:-

Year.	Births.	Males.	Females.	Rate.	Increase.
1894	562	291	271	40.9	329
1895	507	256	251	36.3	253
1896	539	288	251	38.1	275
1897	522	269	253	37.	283

New Cases of Sickness:- Table "B" of the Local Government Board, as I have said - gives the population, and births, and the New Cases of Sickness coming to the knowledge of the Medical Officer of Health during the past year.

I am unable, however, to apportion the births to the various parishes, as I am not furnished with the necessary information; nor am I able to estimate the population of the different parishes and give the death rate appropriate to each as required by the Local Government Board.
The deaths are of course properly localized in the returns of the Registrar, but the births occurring in the whole district are simply given without reference to the parishes in which they take place.
Infectious Disease Notification Act. This Act has been in force in this division of the Union since January 1890.
On receiving the Notification Forms it is my invariable practice to visit and inspect the premises occupied by the patient with as little delay as possible and to give such instructions as to isolation and disinfection as the nature of the disease may require.
To those acquainted with the district, however, it must be obvious that in a large proportion of the cases home isolation is physically impossible.
We are a child-bearing population and not unfrequently the resources of the household are severely taxed in order to provide sleeping accommodation with a proper regard for the separation of the sexes.
Your Inspector makes an independent inspection on his own account and acquaints me with whatever defects his rounds of inspection may reveal. I am often indebted to Your Inspector for much valuable information and assistance and I desire to take this opportunity of thanking him for his ready co-operation in all matters connected with the sanitary administration of

this division of the Union.

Disinfectants. These are supplied free of charge and your inspector himself often personally superintends their use.

Disinfecting apparatus. We have a portable disinfecting apparatus which we use on all possible occasions unless the Medical attendant certifies that the contaminated articles have been otherwise properly disinfected. All disinfection is done free of cost to the householder. The objection to the disinfecting apparatus, commented upon by me in my previous reports is gradually dying out and a more enlightened view seems to prevail with regard to the apparatus and the efficacy of disinfection. Where the bed and bedding are so saturated with the discharges from a fever patient as to render the disinfection of such articles a matter of impossibility, they are destroyed by fire and new ones provided at the expense of Your Council as was done in a case of fever at Burnside in November last.

Infected Houses. These are frequently cleansed and fumigated at the expense of Your Council.

Hospital accommodation. Our hospital which is built of corrugated iron was erected in 1893. In addition to the administrative block, it has three wards each of which is provided with four beds. Although not to such an extent there is still a natural aversion on the part of the community to seek hospital relief in cases of infectious disease. The same feeling obtained with regard to our Medical and Surgical hospitals some 30 or 40 years ago. No doubt the isolation from all other dwellings of the infectious hospital itself and the stringent rules in such institutions with regard to visi

visiting of friends, have done much to foster this feeling among the illiterate. Were we to relax our rules with regard to the visiting of friends, and made the hospital free, which it practically is, for although we are supposed to make a charge in all cases where the patients are considered able to pay, we rarely succeed in getting anything, the hospital would soon become much more popular.

Six cases of Typhoid fever have been under treatment in the hospital during the past year, and, although all but one case made a good recovery, many of the cases were very severe. The patients spoke most highly of the kindness and attention they received and on leaving the hospital they were most ~~proper~~ profuse in their expressions of gratitude.

<u>Infectious cases</u>. There has been a substantial and gratifying decrease in the number of infectious cases during the past year as compared with previous years. Never since the adoption of the Notification Act by us in 1890 have we had fewer cases. Although this is highly satisfactory, I must point out that all over the country - except in districts where epidemics have prevailed owing to exceptional causes - the amount of sickness from infectious disease, notably Typhoid fever, has been exceptionally small.

The subjoined table gives all the cases that have been notified under the Infectious disease Notification Act during the year :-

Scarlet Fever	24
Typhoid Fever	26
Diphtheria	4
Erysipelas	16
Croup	2
Puerperal Fever	1
	43 Total

1896.	Typhoid		Scarlatina		Diphtheria		Erysipelas		Croup		Puerperal F.	
	5 years		15 years		5 years		5 years		5 years		5 years	
	over	under	over	under	over	under	over	under	over	under	over	under
Jany.	3		6	5	1					1		
Feby.	2	1	3	2			1					
March	1		3		1		2					
April			3									
May	1						1					
June	1											
July												
Augt.	5					1	2			1		
Sept.	5	1									1	
Oct.	4		1		1		2					
Nov.	1						3					
Decr.							2	1				
	23	3	16	8	3	1	15	1		2	1	
Totals	26		24		4		16		2		1	
	43											

During the year 1896 one hundred and eighty nine cases were reported viz:-

Scarlet Fever	[illegible]
Typhoid Fever	22
Diphtheria	[illegible]
Erysipelas	4
Croup	5
	1[illegible]8 Total

Scarlet Fever. The last case of Scarlet fever - a solitary case - was reported from Sandon Row in October last. Although there were other children living in the same house the infection did not spread. In previous years Scarlet fever has been very prevalent in the district but during the year under consideration we have been comparatively free from it. This no doubt was due to the less infectious character of the fever ~~season~~ itself as on each occasion when it has broken out I have observed that it has rarely passed to other members of the family.

Diphtheria. With regard to Diphtheria there was nothing unusual about the cases themselves, and so far as the surroundings were concerned only in two cases did I find anything defective in both of which there was dampness of the floors and walls.

Erysipelas. Four of the cases supervened upon accident and with regard to the others they were all of the most ordinary type.

Typhoid Fever. This is one of the most unscrutable diseases, and although it has been my invariable practice to personally investigate the cases, my investigations upon the whole have been far from satisfactory. I [illegible] not unfrequently find that [illegible] diseases by the agency of impaired [illegible]

No limit to the extraordinary way in which some cases are contracted, as the following examples will show.

A boy who had already suffered from two separate and distinct attacks of Typhoid fever, ascribed his third attack to bathing in the Hetton Burn and swallowing some of the polluted water.

A young man who had also suffered from the disease ascribed his second attack to a fearful smell which he felt on going to the Sewage Farm to inspect a monster cabbage growing there. The smell was so disagreeable that he vomited several times on his way home.

But the great difficulty we experienced with regard to those cases which occur in batches of from 4 to 5 - and which within recent years have become so frequent - is the complete absence of anything of a character likely to produce the disease.

Now and again from 4 to 5 cases are reported at one and the same time or within an interval and under conditions pointing to a common source of origin, and yet as I have said we are unable to give anything like an explanation of their origin.

Under the circumstances I naturally turned my attention to the drinking water, as I could not fail to remember that for some time previous to the great epidemic of fever on the Herrington and Newbottle district we suffered from outbreaks of a similar character in those localities. The consciousness, too, that our drinking water has from time to time been described as impure after careful Chemical and Microscopical

accommodation have to appeal to Arbitration against my decision.

Consequently in November I adjured your Council to co-operate with the Urban Council and have the water Bacteriologically examined by Professor Thorney of Newcastle.

You kindly consented to this arrangement [illegible] Thorney spoke favourably of the water, so that for the present, at least, the overtures given to which I have referred, remain as Thick as Mystery ever.

The enclosed table gives the Typhoid cases reported during the year, with particulars and other notes:-

Kennington E. and Ph.

Date	Name	age	Sex	Occupation	Remarks
Sept 28	Mr. Collingwood	16	F.		Nothing.

Kennington West.

Date	Name	age	Sex	Occupation	Remarks
Sept 18	[illegible] Lowther	21	M.	Plumber.	Nothing.
Sept 7	[illegible] Robinson	8	M.		
[illegible]	[illegible] Nicholson	11	F.		
Sept 18	[illegible] Pawsey	2	F.		Nothing.
[illegible]	[illegible]	13	M.	Plumber.	
Oct 9	[illegible] Lister	21	M.	[illegible]	Nothing.
Nov 18	[illegible] Quinton	16	M.		[illegible]

Newbottle.

Date	Name	age	Sex	Occupation	Remarks.
Jany. 1st	Ed. Gray	23	M.	Miner.	Secondary. home —
" 12th	Robt. Gray	12	M.		Otherwise bad
Feby. 27th	Geo. Gray	3	M.		Secondary.
Mar. 13th	J. Gurthwaite	19	M.	Miner.	Nothing.
Aug. 8th	G. Robertson	6	M.		
" 14th	R. Bolton	13	F.		
Sept. 6th	S. Allison	21	F.		Imported.
Oct. 23rd	E. Stephens	6	F.		Nothing.
" 30th	Thos. Race	11	M.		— " —
"	Ada Race	1	F.		— " —

Pershaw.

Date	Name	age	Sex	Occupation.	Remarks.
Jany. 16th	E. Widenberg	32	F.	House-Keeper.	House in very bad repair
Feby. 27th	B. Hoskin	34	M.	Miner.	Nothing.
Mar. 25th	L. Davison	7	F.		Secondary.
May 1st	E. Alderson	20	F.		— " —
Aug. 19th	R. Agar	63	M.	Labourer.	
Sept. 7th	I. Wallace	5	F.		Nothing.
" 24th	G. W. Wallace	10	M.		— " —
Oct. 12th	M. Merrington	14	M.		— " —

Small Pox. We have again enjoyed a complete immunity from this loathsome disease, as we have as from Typhus Fever, Relapsing Fever and Cholera.

Croup. With the exception of the houses occupied by the patients, the floors and walls of which were damp, I could discover nothing of an objectionable character.

Puerperal Fever. The solitary case of this disease took place at Single Row, New Herrington. The house itself was clean and orderly but the inmates complained of an offensive smell coming from an old refuse heap in front of the houses.

These are all the diseases that have been notified under the Notification Act.

There are other diseases, however, to which the Act does not apply, so far as we are concerned, and which are of sufficient importance as indicating the kind of sickness from which we have suffered, as to call for some passing remarks. Among these we may mention the following:-

Measles. We have suffered comparatively little from the disease during the year, as only a few cases have come to my knowledge.

Whooping Cough. We were almost free from Whooping Cough until November when it broke out at Shiney Row and New Herrington and assumed something of the proportions of an epidemic. The school attendance at Shiney Row was somewhat reduced by the prevalence of the disease but at New Herrington the effect was less felt. I inspected the Schools in question and I did not consider it necessary to close them before the usual Christmas Holidays.

Diarrhoea. During the months of July and August I received very frequent [illegible]

district, although not so severe in [illegible] previous years. In the case of an old man the suddenness of the seizure [illegible] the [illegible] collapse and the agonizing cramp in the leg, invested the case for a time with some of the features of the Asiatic Cholera. The patient however did well and there were no subsequent case.

Chicken Pox. I cannot recall more than the cases of this disease; the sufferers were children and there were no constitutional disturbances whatever.

Influenza. The first and last epidemic of this year was the severe during which Influenza usually breaks out in this district. As I have repeatedly remarked, the disease is year by year becoming milder in character and more responsive to treatment so that the attacks are sooner over. The two fatal cases were complicated with Pneumonia.

Rheumatic Fever. Among a farm only a few of four cases of Rheumatic Fever, ordinary Rheumatism has been rather prevalent during the year.

Pneumonia &c. As a rule we suffer rather severely from inflammatory affections of the lungs, especially when the weather is hot and damp and the wind from the East. The old and the young suffer most, as being less able to resist the sudden and severe changes in the weather to which we in the North are so much exposed.

Milk. As a rule our milk is good enough [illegible]

Meat. The animals killed in this district are usually home fed, and as a rule the meat is of good quality.

Food and Drugs Act. Proceedings under this act are taken by the County Council.

The Infectious Disease Prevention Act and the Public Health Act Amendment Act 1890 are both adopted by Your Authority.

Drinking Water. The last Chemical and Microscopical examination of the water took place in September last, when three samples - taken respectively from a tap at Newbottle village & Penshaw and the Reservoir - were forwarded to Mr Stock, Darlington for analysis. He reported that the water taken from the taps was pure while that from the Reservoir was contaminated with surface pollution. When I pointed out to Mr. Stock that he had practically condemned the water at its source while approving of it at its distribution he asked for another sample of water from the Reservoir. This I forwarded to him and in his second report served only to confirm his first. I advised your Authority to have the water bacteriologically examined by Professor Murray, Newcastle. Professor Murray practically supported Mr. Stock as a perusal of his report will show - a copy of which is herewith attached - by showing the water at its distribution to be free from Bacteria than that in the Reservoirs, while the water taken from the Rising Main he described as exceptionally pure.

Three months ago pumping operations were stopped

at the bore hole, Stoney Gate, by the Sunderland and Shields Water Company, where water to the extent of something over 3,000,000 gallons per week is being pumped. This has had a very serious effect upon the Boiling Well at West Herrington.

You will remember, gentlemen, that it was from this wells that the people from New, East, Middle and West Herrington received their water supply after the Herrington Water was discarded during the great epidemic of fever in that district.

Before the pumping operations at Stoney Gate began the Boiling Well yielded sufficient water to supply all the Herringtons, but since then the feeders have gradually taken up so that at the present moment there is barely sufficient water to supply New Herrington itself.

Your Council, therefore, are once more in correspondence with the Sunderland Water Company with a view of acquiring a fresh supply for the villages thus deprived of their water. There can be no doubt that the water which originally went to the Boiling Well is now going to Stoney Gate, as when the pumping operations there cease for a while the water returns to the Boiling Well, but immediately disappears when pumping operations are resumed.

The owners of the Lambton Collieries are at present engaged in sinking a shaft near the Fox-Cover, north of the New Herrington pit where they hope in a short time to be able to raise sufficient water to supply the whole of the affected district. It is devoutly to be hoped that their efforts will soon be successful as there can be

no question that the water supply of this district is in a very critical condition indeed.
Meanwhile, East & Middle Herrington obtain their water supply from a cart from which water is distributed to the villagers twice a day.
The people at the Pure Pit and Morton Engine have had the water laid on to their houses. This is a great boon and is highly appreciated as formerly the water had to be carried or carted a long distance.
The people of Bank Head have been frequently put to serious inconvenience owing to the repeated bursting of the water main. An arrangement has been come to with the Urban Council so that in the event of any further mischief to the pipes, the water of the above Council can be used.

<u>New Houses</u>. The building trade has been busier in this division of the Union during the past year than at any time during the long term of years I have held office under Your Authority. The sixty-four houses that have been built have been erected as follows; viz:-

6 in Back Lane, Newbottle.
2 " Middle Herrington
41 " Chester Road, Penshaw Lane.
14 " Shiney Row.
1 " Penshaw Foundry.

<u>Town manure</u>. Although occasional complaints have been made by persons living near to the railway sidings, of the unbearable stench coming from the manure your Council are most energetic in insisting upon all such rubbish being cleared away in accordance with the requirement of the bye-laws.

Drains & Sewers. During the summer months and after periods of protracted drought the sewers are flushed from the blank ends from a water-cart provided by the Council.

Overcrowding. Six cases of over-crowding have been dealt with, but it is extremely difficult to avoid all infringements of this kind, as owing to the briskness of the coal trade, the demand for houses is greater than the supply and many of the workmen are obliged to rent houses in other districts.

Dairies & Cowsheds. These are regularly and systematically inspected and upon the whole exception can be taken to the way in which they are kept, and the ventilation and air space as a rule, are in accordance with the requirements of the bye-laws.

Slaughter houses. These are also regularly and systematically inspected, and after the animals are slaughtered everything is at once removed to a suitable and convenient place, that the premises are usually kept sweet and orderly.

Housing of the Working Classes Act. Notices were served upon the owners of two houses in Middle Herrington and two in East Herrington. In the former case the houses were pulled down and rebuilt while in the latter they were voluntarily closed. With regard to the notice served upon John Todd, the owner of a house at Mill Pit, the matter was held in abeyance as the property had meanwhile changed hands.

There have been no proceedings before Justices during the past year.

The Shoulder of Mutton Public House at Shiney Row, was in a very insanitary and dilapidated condition. It was taken down by the owner along with an adjoining house, and has since been replaced by a substantial and well arranged building. This is a decided improvement, as one or two cases of fever originated in the old building presumably owing to offensive leakage into the bar and house generally which it was found impossible to check.

New Penshaw. The houses in Front Row, Chapel Row and Double Row, upon which I reported to your Authority in the month of May, were all put into a thorough state of repair, and as many of the out-offices were in a very insanitary condition they were pulled down and replaced by modern receptacles. An old culvert, which was not only dangerous to foot passengers in the dark, but in wet weather flooded the adjoining houses, was also put into order and covered in.

Bye-laws. As defects with regard to the height and width of rooms, and other matters of more or less importance, are not provided for in your bye-laws, it is the intention of your Council to have the bye-laws revised with a view of altering or modifying those provisions which modern requirements demand.

Scavenging. The scavenging is let by contract every year, and the district is divided into parishes or sub-districts so as to suit the contractors and to facilitate the work. In selecting the tenders consideration is given to those whose work has been well and satisfactorily done in the past, and with regard to contractors who have not previously done work for your Council, careful enquiries are made and those with the best credentials [illegible]

provided always that the tenders are considered reasonable by your Council. The agreement or bond entered into by Your Council and the contractor is very stringent and is strictly enforced, so that every reasonable precaution is taken to ensure the proper scavenging of the district. It must be admitted however, that some of the contractors have not given that satisfaction in carrying out their work that we had a right to expect. Putting the clause in force which empowers to withhold cheques until the work is satisfactorily performed, or doing the work and charging the contractor with the amount, as the case may be, is not quite satisfactory. I am of opinion that a penal clause should be added as well, and when the time comes round for the contracts to be made, I trust the Council will kindly give this matter their favourable consideration.

The Colliery Owners, as a rule, repair their own houses, and for this purpose they keep a large permanent staff of workmen. The work is generally well carried out and with a promptitude worthy of our recognition. To enter into detail with regard to the work carried out in this way would be both tedious and uninteresting and serve no good purpose. I have, however, appended a copy of the agents report which shows both the nature and the extent of the work done, and considering the large amount of repairs that were carried out two years ago, it contrasts favourably with previous years.

A copy of Your Inspectors Report is also attached to my Report.

Dubmire. The streets here are still in a very unsatisfactory condition, and apparently it is not the intention of the owners to carry out the improvements required by Your Council unless pressure is brought to bear upon them. The houses in this district belong to different owners, so that the work can only be satisfactorily carried out when entered upon systematically. Having adopted section 150 of the Public Health Act 1875 I should advise your Council after giving the necessary notice, to take the work in hand, as some of the streets are in a most disgraceful condition.

Rain-fall. I am indebted to my friend Mr Gagnon for a copy of the rainfall and I take this opportunity of thanking him for his kindness and the promptitude with which he furnishes me with the information necessary for my report.

Death-rate.

In estimating the death-rate we cannot omit from our consideration the fact that we are a mixed population, and that our birth-rate is high. Under the most favourable conditions a death-rate of 16.6 cannot but be looked upon as satisfactory, and in a floating population such as ours, it is exceptionally low. The mortality from Inflammatory affections of the lungs no doubt may be looked upon as above the average, and I am inclined to the opinion that the clayey nature of the soil upon which the greater part of New Hervington Montreal is built is in some measure responsible for this. It is matter for general rejoicing that the sickness from those infectious diseases included by us under the Notification Act has also been less than in previous years.

If anything matter for regret is our water supply

and this is a question which at the present moment is engaging your grave consideration.
The Colliery Owners are making every effort by boring operations &c. to find a suitable supply for the affected district and it is our earnest hope that they will soon be successful, as a plentiful supply of pure drinking water is of vital importance to the health of a community.
I have visited the district both alone and in conjunction with Your Inspector, and all things considered, I feel justified, gentlemen, in offering you my congratulations upon the satisfactory state of the Public Health of the District.

I have the honour to be,
Mr Chairman & Gentlemen,
Your obedient servant,
F. Park
Medical Officer.

Rainfall — 1897
at Mapu Hall, Houghton Springs in the
County of Dunbar.

Rain Gauge { Diameter of Funnel 5 inches
Height of Top { Above ground 1 ft
Above sea level 265 ft.

Mo.	Total depth in inches
January	1.61
February	1.72
March	2.54
April	1.10
May	1.52
June	2.31
July	1.70
August	2.22
September	2.90
October	1.50
November	1.41
December	1.72
	22.62 Total depth.

(Signed) D. Balfour, M. Inst. C.E.

County Analysts Office.
Barlonpton
Sept. 13th 1897.

To Dr D.S. Park, Medical Officer of Health
Houghton-le-Spring R.D.C. (Northern Division)

I hereby certify that I have analysed a Sample of water marked "A" which I received from you on the 9th Sept. 1897, and that I find as follows:-

Colour & appearance in 2ft. tube - Faint greenish, not bright.
Odour when heated to 100° Fahr. - Faintly musty.

	Grains per Gallon
Chlorine as Chlorides	3.5000
Nitrogen as Nitrates	.0322
Ammonia	.0028
Albuminoid Ammonia	.0056
Oxygen Absorption	.0196
Injurious Metals	None
Total Solid Matter dried at 220° Fahr.	64.9000

Microscopical Examination { Minute deposit from 1/2 gallon Consists of Mineral Matter, Starch Granules, vegetable fibres, diatoms &c

Observations

I am of opinion, after carefully considering the results of my ~~ex~~ analysis that the above mentioned sample of water is of doubtful quality. Both Chemical & Microscopical results point to the presence of foul surface water, but on the other hand, these same results would arise from the reduction of Nitrates by percolation through iron bearing strata and subsequent contact with atmospheric dust. It is one of those cases in which the origin of the sample must be known before a definite opinion can be given.

(Signed) W. F. Keating Stock, F.I.C.
County Analyst to the [illegible]

County Analyst's Office
Darlington.
Sept. 15th 1897.

To Dr. D. S. Park, Medical Officer of Health
Houghton le Spring R.D.C. (Northern Division)

I hereby Certify that I have analysed a Sample of Water marked "B" which I received from you on 9th Sept. 1897, and that I find as follows:-

Colour & Appearance in 2 ft. tube. – Colourless & clear.
Odour when heated to 100° Fahr. – Not marked.

	Grains per Gallon.
Chlorine as Chlorides	1.4600
Nitrogen as Nitrates	.2882
Ammonia	None
Albuminoid Ammonia	None
Oxygen Absorption	.0140
Injurious Metals	None
Total Solid Matter dried at 220° Fahr.	22.9000

Microscopical Examination — Satisfactory

Observations.

I am of opinion that the said sample is a sample of good and wholesome drinking water.

(Signed) W. F. Keating Stock F.I.C.
Water Examiner to the Wrexham County Council.

County Analyst's Office
Durham
Sept. 13th 1897.

To Dr D. S. Park, Medical Officer of Health
Houghton-le-Spring R.D.C. (Northern Division)

I hereby certify that I have analysed a Sample of water marked "C" which I received from you on the 9th Sept. 1897, and that I find as follows:-

Colour & Appearance in 2 ft. tube – Colourless & clear
Odour when heated to 100° Fahr. – ~~Faintly earthy~~

	Grains per Gallon.
Chlorine as Chlorides	3.5000
Nitrogen as Nitrates	.0161
Ammonia	None.
Albuminoid Ammonia	None.
Oxygen Absorption	.0126
Injurious Metals	None
Total Solid Matter dried at 220° Fahr.	69.3000

Microscopical Examination. { Minute deposit from 1/2 gallon, Consists of mineral matter, including coal-dust, vegetable fibres, diatoms

Observations.

I am of opinion, after carefully considering the results of my analysis that the above mentioned sample of water is a sample of good and wholesome drinking water. The micro-deposit is of such a character that taking into consideration the obvious absence of organic contamination I attach no importance to it.

(Signed) W. F. Keating Stock, F.I.C.
Water Examiner to the Durham County Council.

Report upon the Bacteriological examination of samples of water taken at Houghton Spring and Newbottle.

Owing to the undue frequency of cases of Enteric Fever at Houghton-le-Spring and Newbottle, I was requested by Dr. Park the Medical Officer of Health to make a Bacteriological examination of the water supplied to these places for the Sanitary Authorities. I therefore visited Houghton-le-Spring and Newbottle on Friday Nov. 5th and in company with Dr. Park collected samples of water taken at different places in glass bottles which had been previously sterilised by exposure to a temperature of 150° C for half an hour in a special hot air [illegible]

The water which is supplied to Houghton-le-Spring and Newbottle is collected from the sides of the shaft of the Houghton Pit from which it is pumped to a reservoir situated on the top of the hill above the pit. We were kindly informed by the Manager of the Pit that by far the greater part of the water enters the shaft at a point between thirty and forty fathoms from the surface though this main supply is probably supplemented by other smaller supplies entering the shaft at different levels. The water as it collects at the bottom of the shaft comes it is kept separate from that which comes from the workings and whence it is pumped directly through the rising main into the reservoir on the hill above. Thus the nearest point to the source of the water from which a sample could be

obtained was from the rising main [illegible]
One sample was accordingly taken from
tap in the rising main just before it discharges
into the reservoir.
The water in the Houghton West Reservoir was
very clear the bottom being visible at a depth
of some 8 or 10 feet; the surface of the water
was however not quite clear. The sample of
water was taken from this reservoir close to
the outlet.
The water in the Rural District Reservoir which
is fed from the West Houghton Reservoir was
looked very clear. A sample of it was also taken.
The water from this reservoir passes along a pipe
to Newbottle which is about a mile distant.
A sample of the water thus supplied was taken
from the public tap in the street at Newbottle.
The water in the West Houghton Reservoir is
carried directly in pipes to the Houses in
Houghton-le-Spring. A sample of this was
obtained from a tap which came directly
from the main behind a cottage situated
next door to the offices of the Houghton Colliery
at the foot of the hill upon which the reservoir
stands.
The samples thus collected were taken to the
Durham University Bacteriological Laboratory
in the College of Medicine at Newcastle and
the examination was commenced four hours
after the samples had been collected.
In order to ascertain the number of Bacteria
present in the samples of water two nutrient
gelatine plates were prepared from each sample
one containing one cubic centimetre of the water

and the other half a cubic centimetre, measured by sterilised pipettes. The gelatine plates thus prepared were placed in moist chambers in an incubator the temperature of which was maintained at 22° C.

[illegible] was by this means distributed throughout the gelatine in which they multiply and form colonies which can be counted, each colony representing one micro-organism in the original sample.

The number of colonies which developed on the plates were counted at the end of 48 hours [illegible] liquefaction [illegible] solution by some of the colonies was not observed by their being kept longer, as was done in the case of 72 hours. [illegible]

The mean of the two observations made on each case. It may be mentioned here that one cubic centimetre of a good drinking water should not contain more than 100 bacteria (400 in one drachm)

The water taken from the rising main yielded twelve colonies for one cubic centimetre of water, so that the samples of water taken from the point nearest the source in the pit contains only 12 bacteria in each cubic centimetre (48 in each drachm).

The water taken from the Houghton West Reservoir contained [illegible] in the cubic centimetre (=52 in one drachm) of about 18 [illegible] species.

The samples collected from the tap in Houghton-le-Spring contained [illegible] in the cubic centimetre (=[illegible] in one drachm) [illegible]

[illegible]

which is of greatest importance contained only 12 bacteria in one cubic centimetre.
As already mentioned any number below 100 bacteria in one cubic centimetre is generally considered to be not excessive for ordinary drinking water, so that a water which contains only 12 is very satisfactory. This small number indicates, I consider, that the water from the pit was not being contaminated by surface drainage at the time the samples were taken after a period of dry weather.
The water in the West Houghton Reservoir contained 63 bacteria in one cubic centimetre. This excess over the number in the water taken from the rising main may be due to micro-organisms falling from the air into the standing water or to a multiplication of the micro-organisms taking place while the water is standing in the reservoir.
The water taken from a tap at the back of a house in Houghton at the foot of the hill on which the reservoir stands was found to contain almost exactly the same number of bacteria as the water in the Reservoir i.e. 64 in one cubic centimetre. This is what might be expected considering the short distance the water has to travel from the reservoir.
The water taken from the Rural District reservoir contains more bacteria than that taken from the West Houghton Reservoir, 135 in one cubic centimetre. This may be due to the water having stood longer exposed to the air.
The water taken from the tap at Newbottle contains fewer than the water in the Reservoir

District reservoir, 20 in one cubic centimetre. This diminution is probably owing to the fact that the water has to pass for a mile or so through pipes in which a certain amount of settling takes place. I have found a similar diminution after passing some distance along pipes in another place.

It will thus be evident that bacteriologically the water supplied to Houghton-le-Spring and Newbottle is in a satisfactory condition. The larger number of bacteria present in the reservoir shows that they are liable to contamination from the air and that the surroundings of the reservoirs should be kept very clean. On the day of my visit there was a very offensive smell just outside the wall surrounding the reservoirs indicating that refuse of some sort had been deposited there, this should on no account be allowed. The close proximity of two cottages to the reservoirs is also a possible source of danger as the occurrence of a case of Typhoid fever in either of them might lead to contamination of the water in the reservoirs with serious results in consequence.

(Signed) George R. Murray, M.A. M.D. Camb.
Hewett Professor of Comparative Pathology in
Durham University.

Report of Sanitary improvements carried out by the Colliery Owners during the year.

Philadelphia.

Wellington Row:- Taking up four old brick floors and replacing the same in cement to prevent dampness. Taking down and fixing new ceilings and joists. Fixing a tile ventilator to house No. 29 to provide through ventilation.

Shop Row:- An additional room was added to one of the houses here, the roof, chimney and floors of which, including privy, coalhouse and yard wall were all done up and a new sink put in the yard and connected with the main sewer.

Chapel Row:- The roofs of houses No. 5 and 6 were taken off and the backs raised so as to heighten the rooms. New windows, doors and frames were added, a stair-case provided and the floors cemented and new roofs put on.

Raglan Row:- Excavating and levelling back street; taking up and relaying main sewers, curbing, channelling and relaying 28 yard flow and fixing sinks to each of the houses. Two houses in this row were provided with new attics.

Spring Gardens:- Taking up and replacing the floors of 3 houses in cement to prevent dampness.

Bunker Hill:- A house here was raised an additional storey and cemented outside and provided with new wood floors, doors, windows &c.

New Herrington.

Bridge Row:- The floors of houses No. 21, 4 and 19 were taken up and laid in cement to prevent dampness.

Lanton St:- Fixing 3 street grates with 15 in. gullies and connecting the same to surface water drain.

Taking up old brick floor and replacing the same in cement to prevent dampness.

Catherine Terrace:- Taking off plastering and replastering the same in cement to prevent dampness; taking up and replacing the cement floors of houses No. 11 and 24. The sides of several of the privies were taken down and rebuilt. The yards of all the houses in this Terrace were thoroughly overhauled and done up.

Travers St.:- The foot path in front of the houses was levelled and done up.

George St. East:- Taking up old brick floors in houses No. 11 and 21 and replacing the same in cement to prevent dampness.

George St. West:- Levelling, channelling and ballasting foot path in front of this street.

Old East Row:- Taking up two old floors and replacing the same in cement.

Fenton Terrace:- New cement floor provided to house No. 57; paving back yards and repairing the privies.

Old Pershaw:- Taking off roofs of two houses and raising the floors, providing new windows, doors chimneys, staircase &c.

Pershaw Stables: Taking up old stone culvert and making good drains to prevent offensive smells; cement plastering old stone walls of three houses; cemented floors of 2 houses and one pantry through which the culvert came, to prevent smells.

Long Row, Shiney Row:- Fixing metal like ventilator to houses No. 9, 14 and 21 to provide through ventilation; taking up and relaying two floors in cement to prevent dampness.

Barrack Row, Shiney Row:- Taking up & relaying

cement floors in houses No. 6, 11, 14 and 23 to prevent dampness.

Bow Row and Chapel Row:- Taking up and relaying cement floors in houses No. 1, 5, 19 and 21 to prevent dampness.

New Pinshaw:- Reconstructing the [illegible] W.C. of the Middle Row and the Row facing the railway and repairing the doors and otherwise doing up all the houses in these Rows.

Pinshaw Staithes:- Building a new conveniences and repairing the other property.

Jane Pit:- Covering the ground at the back of houses to prevent dampness.

Mary Pit:- Sinking well to provide water for these houses, building it up and cementing it to protect from pollution.

Church St, Newbottle:- Levelling, curbing, channelling & paving foot path.

South Back Lane:- Re-roofing house and providing new staircase.

Sunnyside:- Converting 2 houses into one large one.

Bank Head:- Converting large house into five tenements and providing the necessary out-offices and wash-houses for the tenants.

Black Boy Cottages:- Laying 200 yds. of 6 in. sanitary drains from the overflow of settling tank and carried across the field for the sewage of these cottages.

K_2 3.

(A)

TABLE OF DEATHS *during the Year* 1897, *in the* Houghton-le-Spring *Rural District,* (Northern Division)

classified according to DISEASES, AGES, *and* LOCALITIES.

Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. (*See note 4 on back of sheet.*) (*Columns for Population and Births are in Table B.*) (a)	Mortality from all causes, at subjoined Ages. At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 65. (g)	65 and upwards. (h)	(i)	1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Fevers. Typhus.	6 Enteric or Typhoid.	7 Continued	8 Relapsing	9 Puerperal.	10 Cholera.	11 Erysipelas.	12 Measles.	13 Whooping Cough.	14 Diarrhœa and Dysentery	15 Rheumatic Fever.	16 Phthisis.	17 Bronchitis, Pneumonia and Pleurisy.	18 Heart Disease.	19 * Influenza	20 Injuries.	21 All Other Diseases.	22 Tot
Herrington E+M.	3	1	.	2	.	.	.	Under 5						.										.	1					
								5 upwds.						1										1	.					1
Herrington West	64	30	7	2	3	12	13	Under 5									.	.			2	2		1	13	.		.	19	3
								5 upwds.									1	1			.	.		4	3	4		3	14	3
Morton Grange	.	.	.	.	.	.	.	Under 5																						.
								5 upwds.																						.
Newbottle	84	29	10	6	6	15	21	Under 5				1		.								2		2	8	.	.	1	25	3
								5 upwds.				1		3								.		5	8	4	2	1	24	4
Offerton	.	.	.	.	.	.	.	Under 5																						.
								5 upwds.																						.
Penshaw	65	31	13	1	3	7	10	Under 5				1		.							1			.	8	.		1	33	4
								5 upwds.				.		1							.			2	1	6		3	8	2
Silksworth	8	1	1	4	.	2	.	Under 5																		.		.	2	
								5 upwds.																		2		3	1	
Warden Law	.	.	.	.	.	.	.	Under 5																						
								5 upwds.																						
								Under 5																						
								5 upwds.																						
								Under 5																						
								5 upwds.																						
Totals	230	92	31	15	12	36	44	Under 5				2		.			.	.			3	4		3	30	.	.	2	49	12
								5 upwds.				1		5			1	1			.	.		12	12	16	2	10	47	10

The subjoined numbers have also to be taken into account in judging of the above records of mortality. *See Note 5 on back.*

Deaths occurring outside the district among persons belonging thereto.	9				1	5	3	Under 5																.	.	.			.	.
								5 upwds.																2	1	2			4	9
Deaths occurring within the district among persons not belonging thereto.								Under 5																						
								5 upwds.																						

* The heading of column 19 is left blank for the insertion of Influenza, or any other disease which it may be thought desirable to record.

NOTES ON TABLES A AND B.

NOTE 1. *Medical Officers of Health of "Combined Districts" must make a separate Return for the District of each District Council.*

2. *Medical Officers of Health acting for a portion only of the District of a District Council should write, in the heading of the Table, the designation of the Division for which they act.*

3. *The words "Urban," "Rural," or "Metropolitan" must be inserted in the appropriate space in the heading, according as the District is Urban or Rural, or is within the Metropolitan Area.*

4. The "*Localities*" adopted for the purpose of these statistics should be areas of known population; such as parishes, groups of parishes, townships or wards.

As stated at the head of the first column in each Table, *Public Institutions* should be regarded as separate localities, and the deaths in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received are Public Institutions for the purpose of these statistics.

5. *The deaths which have to be classified in this Table* (A), and summed up in the horizontal line of "Totals," are the whole of those *registered* as having actually occurred in the several localities comprised within the Division or District. But the registered number of deaths frequently requires correction before it can give an exact view of the mortality of a Division or District; and the two lowest horizontal lines are provided for the purpose of enabling Medical Officers of Health to indicate, to the best of their ability, what the extent of such corrections should be. Details concerning the corrective figures, *e.g.*, the institutions that have been considered, or the particular localities to which corrections apply, may appear in the text of the report or in supplementary tables.

Area and Population of the District or Division to which this Return relates.

Area in Acres 8.399

Population (Last Census) 13.109

" (Estimated to middle of 1897) 14.345

Death Rates.
- General 16.6 — per 1,000 Population, estimated to middle of 1897.
- Infant (under one year of age) 146 — per 1,000 Births Registered.

In recording the facts under the various headings of Tables A and B, attention has been given to the notes endorsed on the Tables.

[illegible] *Medical Officer of Health.*

(Date) [illegible], 1898.

W B & L (555u)—79031—10000-10-97

K² 11.

(B)

TABLE OF **POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS,** *coming to the knowledge of the Medical Officer of Health, during the year* 1897, *in the* Houghton-le-Spring Rural *District; classified according to* DISEASES, AGES *and* LOCALITIES.

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities. (See Note 2 on back of sheet.) (a.)	Population at all Ages. Last Census. (b.)	Population at all Ages. Estimated to middle of 1897. (c.)	Registered Births. (d.)	Aged under 5 or over 5. (e.)	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health. 1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Fevers. Typhus.	6 Fevers. Enteric or Typhoid.	7 Fevers. Continued	8 Fevers. Relapsing	9 Fevers. Puerperal	10 Cholera.	11 Erysipelas.	12	13	Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital. 1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Fevers. Typhus.	6 Fevers. Enteric or Typhoid	7 Fevers. Continued	8 Fevers. Relapsing	9 Fevers. Puerperal	10 Cholera.	11 Erysipelas.	12
Herrington E. & M.	995			Under 5		5				.																				
				5 upwds.		1				1																				
Herrington West	980			Under 5			.			.			.		.															
				5 upwds.			1			7			1		6															
Morton Grange	462			Under 5		2																								
				5 upwds.		3																								
Newbottle H.	1.454			Under 5		1	1	1		3					1									.						
				5 upwds.		5	1	.		7					9									3						
Offerton	931			Under 5																										
				5 upwds.																										
Penshaw	1.085			Under 5		.	.	1		.														.						
				5 upwds.		6	1	.		8														3						
Silksworth	1.994			Under 5		.																								
				5 upwds.		1																								
Warden Law	498			Under 5																										
				5 upwds.																										
				Under 5																										
				5 upwds.																										
				Under 5																										
				5 upwds.																										
				Under 5																										
				5 upwds.																										
Totals	8.399	14.345	522	Under 5		8	1	2		3			.		1									.						
				5 upwds.		16	3	.		23			1		15									6						

State here whether "Notification of Infectious Disease" is compulsory in the District Yes. Since when? 1891

Besides the above-mentioned Diseases, insert in the columns with blank headings the names of any that are notifiable in the District, and fill the columns accordingly. State here the name of the Isolation Hospital used by the sick of the District. Mark (H) the Locality in which such Hospital is situated; and if not within the District, state where it is situated Northern Fever Hospital

NOTES ON TABLE B.

(See also Notes on back of Table A.)

NOTE 1. The present *Table B.* is concerned with population, births, and sickness (not with mortality) in the district or division to which the Table relates.

2. As stated in the heading of Col. *(a)*, *Public Institutions* should be regarded as separate localities, and the new cases of sickness in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received, are Public Institutions for the purpose of these statistics.

3. *Comments on any unequal incidence of notifiable disease upon the several localities, and considerations as to the local incidence of Consumption and other prevalent diseases, should be made in the text of the Report.*

W B & L (555u) --79032—10000-10-97

200-209.
200-[illegible]-12-97.

County of Durham.

SUMMARY of work done in the Inspector of Nuisances' Department during the year 1897 in the Northern Rural *District of* Houghton le Spring

	Number of Informal written Notices by Inspector.	Number of Formal notices by order of Authority.	Number of Nuisances abated after Notice,	General Remarks.
I. PUBLIC HEALTH ACTS.				
Dwelling-houses and Schools. — Foul Conditions	23	9	32	
Dwelling-houses and Schools. — Structural Defects	31	11	29	
Dwelling-houses and Schools. — Overcrowding	6	1	6	
Lodging-houses	—	—	—	
Dairies and Milkshops	1	—	1	
Cowsheds	3	—	3	
Bakehouses	—	—	—	
Slaughter-houses	2		2	
*Ashpits and Privies	24	13	31	52 ashpit privies replaced by ash closets.
Deposits of Refuse and Manure... ...	8	3	10	
Water-closets	2		2	
Defective Yard Paving	9	4	12	
House Drainage — Defective Traps	7	2	8	
House Drainage — No Disconnection from Sewers ..	—	—	—	
House Drainage — Other Faults	23	7	29	
Water Supply	4	—	4	
Pigsties	8	3	9	
Animals Improperly Kept	5	4	7	
Offensive Trades	—	—	—	
Smoke Nuisances	—	—	—	
Other Nuisances	6	3	9	
TOTALS	162	60	204	

* Please state the number of ashpit-privies that have been replaced by small ashclosets or by waterclosets.

	Number.	Remarks.
II. HOUSING OF THE WORKING CLASSES ACT, 1890.		
Formal Notices served	3	
Dwellings dealt with	6	
Dwellings made habitable after formal notice ...	3	
Closing Orders applied for	—	
Closing Orders granted by Magistrates... ...	—	
Dwellings permanently closed	2	
III. WATER, FOOD AND DRUGS.		
Samples of Water taken for Analysis	6	
,, ,, condemned as unfit for use ...	—	
Seizure of Unwholesome Food	—	
Convictions for exposing or selling unwholesome Food	—	
Samples of Food and Drugs taken for Analysis	—	
,, ,, found Adulterated	—	
IV. PRECAUTIONS AGAINST INFECTIOUS DISEASE.		
Lots of Infectious bedding stoved or destroyed	4	by disinfecting apparatus
Houses disinfected after Infectious Disease ...	21	
Schools do. do. ...	—	
Prosecutions for exposure of infected persons or things	—	
Convictions for do. do. do.	—	

Wm Morley
Inspector of Nuisances.

To
THE COUNTY MEDICAL OFFICER OF HEALTH, DURHAM.

Date 3 February 1898.